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AUTHOR Bryson, Charles H.
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ABSTRACT

Discussed is the reporting quandary at higher education institutions. These points are appraised: the clearinghouse function, data definitions, and the data base management function. The author warns against the suggestion that the institutional research office should assume the responsibility for all reports prepared by and departing from the institution. Rather, he envisions that the clearinghouse function of the office might be developed and supported. It is further suggested that this function be more closely aligned with the function of the institution's data base manager to guarantee consistent definition and appropriate use of individual pieces of data. (MSE)

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REPORT FACTORY OR INSTITUTIONAL CLEARING HOUSE: THE INSTITUTIONAL RESEARCHER'S ROLE WITH DATA SUPPLIERS AND DATA USERS

Charles H. Bryson

Research Associate

Georgia State University

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Abstract

The aim of this paper is to discuss the report quandary at institutions of higher learning. It appraises these points: the clearing-house function, data definitions and the data base management function.

It is not the purpose of this paper to suggest that the institutional research office should assume the responsibility for all reports prepared by and departing from the institution. Rather, it is envisioned, however, that one frequently observed function of this office might be developed and supported--that of being a clearing house for information destined for both internal and external utilization. A further suggestion is that this clearing-house function needs to be more closely aligned with the function of the institution's data base manager in efforts to guarantee consistent definition and appropriate use of individual pieces of data. This joint effort would consider both the source and the ultimate use of data from the time when a need for data is first recognized, through the process when computer programs for storing the data are designed, to the point where end-product reports are delivered and used.

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Charles H. Bryson
Georgia State University

The Report Quandary

As an institution of higher education grows in number of programs and affiliations, there is also an increasing number of national, state and regional agencies and organizations expressing interest in knowing about the operation of the institution. While many of these interests relate to program evaluation by professional discipline groups, others are of a comparative nature. In many cases the information furnished is ultimately published in widely circulated documents often becoming the basis for peer comparisons and professional evaluations.

With the increasing number of respondents providing information to outside users there also exists an increasing potential for embarassment when reports leave the institution reflecting grossly different facts. While some queries regarding faculty distribution, salaries and credentials are addressed to the chief academic officer, others are addressed to the finance officer, the institutional research officer or the librarian. It is not an easy matter to determine what offices throughout the institution receive queries and how these offices, in their own way, respond to them. An institutional research office frequently "hears" about surveys and questionnaires when a secretary from another office telephones to search for needed information or to ask how particular questions should be answered in situations where available data are defined differently from that requested. It is likely that many items leaving the institution purported to be "official" data come from any number of attempts to gather piecemeal facts using just as many "unofficial" definitions or "look-good" interpretations. It stands to reason that the validity of the institution's official records are soon to be doubted as more and more inconsistent, and sometimes contradictory, data are distributed in this decentralized manner.

Although an office of institutional research frequently has no explicit authority to create or maintain any of the "official" data files of the institution, the performance of institutional research increasingly puts this kind of office in

a position to be held accountable for such files as well as to become increasingly enmeshed in an interpretive role. Probably much more frequently than one realizes, this kind of office receives requests to provide a variety of information to users both inside and outside the institution. While these requests may be in the form of a memo, letter or a questionnaire, they are most often received informally by telephone or a walk-in visit. Too, requests are received from all levels of personnel ranging from the ambitious, inquisitive student searching for class project data, through secretaries, administrative assistants, senior administrative officers and the institutional president. Apparently, the institutional research office is seen by its numerous customers, particularly high echelon administrators, as a place where information and procedures appropriate to interpreting the institution's information are available on a moment's notice. Consequently, there is ample reason for an institutional research staff to become uneasy when asked to report and interpret data using numerous informal sources where definitions can be established through trial and error.

The Clearing-House Function

Without appropriate recognition and administrative charge, an institutional research office often functions to a great extent as a quasi-official clearing-house for large amounts of quantitative information leaving the institution. Having recognized and assumed this clearing-house role, the institutional research office is in the position where others, both originators and recipients of the data, are prone to see it as responsible and accountable for materials passing through its hands. In some degree this function puts the institutional research office in a position to work closely with other offices where data are generated and maintained in efforts to establish consistent definitions and usage of basic information. Often a case in point is the data relative to staff and faculty personnel collected and maintained in the institution's personnel office. At this institution joint efforts made between the personnel office and the institutional research office to develop a consistent and accurate staff and faculty personnel data base have been quite productive, in that today a variety of regular uses can be made of information residing on the personnel data files. This cooperative effort towards standardized definitions and usage has produced a substantial payoff for institutional studies regarding both staff and faculty personnel. It is unfortunate, however, that faculty information is not so readily standardized as that for staff personnel. Consequently, when

inconsistent definitions of information pertaining to personnel holding faculty rank exist, then data cannot be utilized to the desired extent. In instances like these, where inconsistent definitions and erroneous use of data are apt to cause frequent and gross distortions, the clearing-house role acquires greater dimensions. Rather than deal with data in ways which not only are inconsistent with basic concepts of good management but demand subjective decisions without benefit of all the facts, the institutional research office is in a desirable position to assume a leadership role in setting definitional standards for the institution. It appears that preparing institutional studies permits the institutional researcher to acquire a broader understanding of the interdependent relationships between operational entities within the institution than is evident in any of the individual operational components. Since the institutional researcher appears to be well equipped to function as a clearing house of definitional concepts between operational entities, he can be of great assistance in developing accurate and efficient data exchange procedures between operational functions. Then it is not necessary that data be handled and used in ways inconsistent with basic concepts of good management or in ways requiring subjective interpretation by the user. Again it must be emphasized that when the institutional researcher functions in this manner, he frequently is thought of as an information storehouse, when in actuality he must preserve his role as an information clearing house if he is to remain effective in the area of institutional research.

While the institutional research office is not usually responsible for the generation or maintenance of any "official" institutional data base, it regularly needs to draw information from various types of data files such as personnel, student records, budget, curriculum and payroll. Here again, familiarity with the interdependent relationships in the data allows the institutional researcher to spot problems in the data and work with appropriate responsible administrative areas toward preventing release or publication of inaccurate information. In these cases the additional function of content correction is sometimes coupled with content monitoring in the clearing-house role. Although the institutional research office at this institution through experience has gained the knowledge to permit minimum monitoring of data for accuracy, it is impractical to expect the institutional research office to take on the task or responsibility, voluntarily or otherwise, of originating, maintaining or correcting any official institutional files. Yet, out

of courtesy, this office has made a practice of informing areas responsible for the maintenance of data when obvious errors were observed. Generally these gestures have been positively received and encouraged.

Data Definitions

There are numerous vital areas related to these problems where an institutional research office can meet the challenge. A long significant lack within most academic institution's numerous record-keeping endeavors is an institution-wide standard of data definition and utilization. The purposes of such a function are many. For example, when salary is mentioned, any number of meanings can be assumed depending upon the circumstances and interests. If a teaching faculty member's salary is in question, there are numerous options: Is it for the academic year? Is it for the fiscal year? Does it include supplemental remuneration? Does it include fringe benefits? Is the amount expressed as an hourly wage, a monthly salary, a quarterly salary, a per course salary, an academic year equivalent or as an annual equivalent? These questions are representative of the type questions that must be asked and answered about every item of data utilized in compiling information. With an operational data definition and utilization procedure, an item like salary would be consistently defined and utilized throughout the various areas where it is stored and used. Frequently salary data is stored differently in various locations because one user needs total remuneration, another needs annual state monies alone, while still another needs equivalent academic year based only upon state funds. This ever increasing hodgepodge creates the very environment where nobody knows what anybody is doing, errors are born, nurtured and multiplied. In this context, eventual misrepresentation or erroneous use of data is a certainty. Comparisons of disparate data coming from two different sources will obviously arouse suspicion as to the validity of any of the data or the honesty of the data reporter.

Institutional researchers have been instrumental in identifying weaknesses inherent in the state-level management information system stemming from inappropriate use of inadequately defined data originating in 32 separate institutions. Consequently, individuals from this office have been enlisted in an advisory capacity to the state-level governing board as they seek to establish data definitions and standardize procedures for interpreting the data. Particular emphasis has been focused on faculty workload and curriculum information.

More noticeable problems of definitional differences exist when information is exchanged between peer instituions for comparative purposes. Again the institutional researcher who frequently is responsible for these exchanges is in the position to assure that comparable data are prepared for the exchanges. So when it comes to data definitions and analytical procedures, the role of the institutional researcher can extend far beyond the confines of his own office.

Data Base Manager

Several years ago computer systems managers in many corporate structures realized the collision course existing where major management decisions were being formed upon the basis of inconsistently defined information. The need for monitoring basic data definitions and specifications became even more acute as corporations began to recognize the interdependence of many of the departmental data bases previously thought to be the private domain of each individual operational component of the corporation. From the observation that all these separate little empires were at some level related grew the concept of linking the previously disjointed data to provide more timely and comprehensive management-decision information. The management information system concept can thus be regarded as a practical attempt to incorporate general systems theory into the process of handling large amounts of detailed information so that it is meaningful when summarized for critical upper level management decisions. The function of the data base manager developed out of the need for data file elements to be adequately defined and documented at the time of systems design and implementation. This function, while not responsible for the accuracy of the individual bits and pieces of information, does have a continuing responsibility to monitor the mechanics and procedures of information storage and utilization. Else the type of data stored in a given field at any one date may differ greatly from that stored at another time, with the ultimate user never having any knowledge of the change in practice. The function of data base manager is all the more important in situations in which data users have little or no input into the structure of the data and its initial gathering and storage.

It would seem appropriate that stronger support be afforded the function of data base manager in educational institutions. In some institutions, where there is recognition that all the "official" data files of the university are related and interdependent, this function is in the hands of an institutional-wide committee

with the chief executive officer or similar high echelon administrator as chairman. Before new data files are added, their use must be adequately defined and justified. And before definitions and utilization procedures of any data files are amended, there must be full exploration of the effect of the change upon all the users. To permit this kind of tracking in the use of specific items of data, a data base manager must maintain a closely controlled cross-referencing procedure most often called a "data element dictionary." The National Center for Education Management Systems at WICHE (NCHEMS) has for several years supported the concept of maintaining a data element dictionary and consequently provides a tremendous amount of technical support to implement such procedures within educational institutions. In addition to providing guidelines for consistent use of data fields, the data element dictionary indicates where specific kinds of data are available as well as identifying all the regular users of any piece of data. With this kind of procedure, no user finds himself suddenly without necessary operational data. Another great benefit from such cooperative monitoring efforts is that duplicate and unnecessary data gathering and storage can be eliminated resulting in substantial monetary savings in both manpower and computing machinery.

Considerations and Suggestions

While it is not the purpose of this paper to suggest that the institutional research office should assume the responsibility for all reports prepared by and departing from the institution, it is envisioned, however, that one frequently observed function of this office might be further developed and supported--that of being a clearing house for information destined for both internal and external utilization. A further suggestion is that this clearing-house function needs to be more closely aligned with the function of the institution's data base manager in efforts to guarantee consistent definition and appropriate use of individual pieces of data. This joint effort would consider both the source and the ultimate use of data from the time when a need for data is first recognized, through the process when computer programs for storing the data are designed, to the point where end-product reports are delivered and used.

Another likely responsibility of this function would be to serve as a clearing house for all queries received in the institution. Most often, these information requests are addressed to any number of offices on the campus. What is

reported and to whom is anybody's guess. It would appear that a satisfactory solution to this growing problem would be that all external requests for information come to a central point, be logged and then farmed out for necessary data where needed but returned to the central point before the response is mailed. It is not unusual, for example, for two entities within an institution to expend hours of manpower and many dollars worth of computing time responding to duplicate requests from the same external office. When two requests are mailed to two different offices within an institution and there is no clearing-house function for such requests, obviously neither office can know of the other's involvement and both may respond in their separate and different ways. There is no way to estimate just how much time and money is spent preparing data, if not for duplicate requests, for similar information.

These considerations indicate a need for support in directions which would further define an information clearing-house function within the office of institutional research. Support toward formal alignment between this clearing-house function and the institution's data base manager function is also strongly indicated. But the sensitivity of these suggestions cannot be overlooked. For precedent, sometimes out of necessity, has long been set. In most institutions, it is frequently desirable to operate on a completely independent basis. Administrative areas are long accustomed to defining their data systems to store just that data they presumed necessary and then freely changing data definitions as their own individual needs changed. However, the data base manager function could be interpreted as threatening if not provided the full support of upper level administration. Likewise, even minimum efforts to channel all information requests through the institutional research office could be met with disdain were upper echelon support denied.

This paper, while not intended to present a detailed picture of possible solutions, is concerned with calling attention to a growing area of interest. Views and concerns expressed in this paper are generally shared by data base managers and computer systems personnel who frequently emphasize their strong interest in further developing the relationships and functions discussed in this paper. It is desired that through presenting some of the existing problem areas, this paper will invite further consideration to ways through which the administrative function of an educational institution can be made more efficient and effective.